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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,548	06/21/2001	Matthew B. Dubin	H0002057	7279

7590

02/05/2004

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South Bend, IN 46628

EXAMINER


CARIASO, ALAN B

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 02/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 09/886,548	Applicant(s) DUBIN ET AL.	
	Examiner Alan Cariaso	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20,23,25 and 38 is/are allowed.
- 6) ☒ Claim(s) 1-19,21,22,24,26-31,34,36,37,39 and 40 is/are rejected.
- 7) ☒ Claim(s) 32,33 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>20031110</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 November 2003 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 8, 15-17 and 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by OTT (US 1,637,348).

4. OTT discloses a housing structure (A-fig.1); at least one light source (E) arranged inside the housing structure (A); a prism (F) having an input face (f), an output face (f'), and a transfective face (H, col.2, lines 1-12) to receive, distribute, and direct light emitted by the light source (E) which is external of the prism (F); and a lens (d or C) through which emitted light passes, wherein the lens (d or C) is engaged with the housing structure (A) and light emitted by the light source (E) is capable of passing

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through the lens (d); further comprising an alignment guide (e) for aligning the light source (E) to direct the light source; wherein a first portion of the light emitted from said light source undergoes total internal reflection at the transflective face of said prism and a second portion of the light emitted from said light source is transmitted through the transflective face, the combination of said first and second portions of light producing a light pattern with a sharp angular cutoff corresponding to the critical angle for said total internal reflection at the transflective face (col.2, lines 1-26); wherein the at least one light source (E) inherently emits at least a white light; further comprising an optical filter or diffuser (e') between the light source (E) and the input face (f) of the prism (F) to condition and distribute the light emitted by the light source; further comprising a second prism (G) within the housing structure (A) having an input face (H), an output face (g or g'), and a transflective face (g' or g) to further shape and direct the light emitted by the light source; and given the structure above, it inherently meets the process for providing a housing structure (A), placing at least one light source at the housing structure, applying electrical current to the light source, receiving, distributing light by a prism and second prism, passing light through lens (objective C), and providing first and second portions of light by the prism(s).

5. Claims 1, 2, 9, 11, 16-19, 21, 22, 28-31 and 34 are rejected under 35

U.S.C. 102(b) as being anticipated by YAMADA et al (US 5,704,703).

6. YAMADA discloses a housing structure (3-6 in fig.3 or 107,108 in fig.18); at least one light source (1-fig.3 or 105-fig.18) arranged inside the housing structure; a prism (2-

fig.3 or 106-fig.18) having an input face (2a-fig.3 or 106a-fig.18), an output face (2c-fig.3 or 106c-fig.18), and a transfective face (2b or 2c or 106b or 106c; col.6, lines 7-39) to receive, distribute, and direct light (7,8-fig.3) emitted by the light source (1 or 105) which is external of the prism (2 or 106); and a lens (102,110-fig.18) through which emitted light passes, wherein the lens (102,110) is engaged with the housing structure (107,108) and light emitted by the light source (1,105) is capable of passing through the lens (102,110); wherein a first portion (7-fig.3) of the light emitted from said light source undergoes total internal reflection at the transfective face (2c,2b) of said prism (2) and a second portion (8 and dotted light-line in fig.3) of the light emitted from said light source is transmitted through the transfective face (2c,2b), the combination of said first and second portions of light producing a light pattern with a sharp angular cutoff (fig.23) corresponding to the critical angle for said total internal reflection at the transfective face (2c,2b); wherein the at least one light source (E) inherently emits at least a white light; wherein the at least one light source comprises a plurality of light sources (figs.14A-18) comprising a plurality of angular distributions of light (figs.14A-18); further comprising a diffuser (57-fig.13A) between the light source (51) and the input face (52a) of the prism (52) to condition and distribute the light (58) emitted by the light source (51); further comprising a second prism (figs.14A-18) within the housing structure having an input face, an output face, and a transfective face to further shape and direct the light emitted by the light source; further including facets (32a-fig.7) on the input face of any one or all of the plural prisms (32); wherein the facets (32a) are flat and curved facets (32a-fig.7; col.9, lines 11-14); and given the structure above, it inherently meets

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the process for providing a housing structure (A), placing at least one light source at the housing structure, applying electrical current to the light source, receiving, distributing light by a prism and second prism, passing light through lens (objective C), providing first and second portions of light by the prism(s); and providing facets (32a-fig.7) on the input faces of any of the prisms.

7. Claims 1-3, 9, 11, 14, 17, 26-30, 39 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by SASAKI (US 5,769,532).

8. In regards to claims 1, 3, 9, 11, 14, 17, 28 and 30, SASAKI discloses a housing structure (globe 4); at least one solid state light source (LEDs 1) arranged inside the housing structure (4); a prism (3) having an input face (face adjacent to light sources 1), an output face (face pointed by 3), and a transfective face (31; *col.5, lines 41-48 shows partial reflection of 90% the surface is employed with an Al film*) to receive, distribute, and direct light emitted by the light source (1) which is external of the prism (3); and a lens (41) through which emitted light passes, wherein the lens (41) is engaged with the housing structure (4, col.4, lines 5-10) and light emitted by the light source (1) is capable of passing through the lens (41); further comprising an alignment guide (33) for aligning the light source (1) to direct the light source; wherein the at least one light source comprises a plurality of light sources (1); wherein the light sources (1) comprise a plurality of angular distributions of light (col.2, lines 52-56 or in a broader interpretation is defined by plural angular positions of the LEDs 1 about the vertical or longitudinal axis); further comprising a second prism (the top half of prism 3 with the first prism

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being the bottom half) within the housing structure (4) having an input face, an output face and transfective face (fig.1); given the apparatus of SASAKI, the process steps of claims 28 and 30 are anticipated and/or inherent, the steps including providing the housing structure, placing at least one (solid state) light source at the housing structure, applying electrical current to the light source, receiving, distributing and directing light by means of the prism, passing light through the lens, and providing and arranging a second prism having an input face, output face and transfective face.

9. As for phrase "wherein a first portion of the light emitted from said light source undergoes total internal reflection at said transfective face of said prism and a second portion of the light emitted from said light source is transmitted through said transfective face, the combination of said first and second portions of light producing a light pattern with a sharp angular cutoff broadly corresponding to the critical angle for said total internal reflection at the transfective face" recited in claims 2, 26, 29 & 39 and the phrase "wherein the light emitted from said light source forms a continuum of incident angles of light on said transfective face such that some light exceeds the critical angle of total internal reflection for said prism, some light is at the critical angle of said is prism, and some light does not exceed the critical angle of said prism" recited in claims 27 & 40, any recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as

compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 5-7, 9-14, 24, 26, 27, 36, 37, 39 and 40 are rejected under 35 U.S.C.

103(a) as being unpatentable over OTT (US 1,637,348) in view of FUJIHARA et al (US 4,852,985).

12. OTT discloses applicant's claimed invention except: means for controlling the amount of electrical current applied to the light source and means for modulating the intensity of the light source (claims 5-7 & 36); the at least one light source comprising a plurality of light sources (of claim 9) of a plurality of colors (claim 10), in a plurality of angular distributions of light (claim 11), and connected in series or series-parallel (claims 12 & 13); the light source being solid state (of claims 14, 26, 27, 39 & 40); means for controlling the amount of electrical current applied to a plurality of solid state light sources (claims 24 & 37).

13. FUJIHARA teaches, in the same field of endeavor, a control circuit (C, figs.1,9) which includes selective controlled switch unit (9,10,12; col.2, line 67 to col.3, line 8) and further adjusting means (col.3, lines 8-10) for adjusting the brightness of the light

source (1) which basically controls the amount of electrical current to the light source (2) and modulates the intensity of the light source (2). FUJIHARA further teaches the light source (2) comprising a plurality of plural colored semiconductor light sources or LEDs (col.3, lines 49-53) arranged in two dimensions (figs.2,3A,3B) and electrically in series-parallel (fig.1) for producing plural modes of light distributions (figs. 5A-5F) and selectively emitting various colors of light.

14. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the lighting device of OTT to include the type of control circuit and plural colored solid state light sources as taught by FUJIHARA et al in order to form various modes of light distributions in various selective colors at with at least the advantages of using low carlific power, low power consumption, long service life and vibration resistance.

15. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over SASAKI (US 5,769,532) in view of RONEY et al (US 5,528,474).

16. SASAKI discloses applicant's invention except means for carrying away heat generated by the light source. RONEY teaches a heat sink (copper layer 26 and traces 29) and conductive medium (14) as part of LED positioning guide (20) for the purpose of carrying away heat generated by the light source. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LED device of SASAKI to include a heat sink and conductive medium as taught by RONEY in order to dissipate heat from the light source.

17. Claims 5-8, 10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over SASAKI (US 5,769,532) in view of WALTZ et al (US 5,450,301).

18. SASAKI discloses applicant's invention except: a means for controlling the amount of electrical current applied to the light source; the current control means being located in one of inside the housing structure and remotely from the housing structure; means for modulating the intensity of the lights source; the light source being one of green, red and white light; the light source being a plurality of colors; the light sources being electrically connected in series or series-parallel.

19. WALTZ teaches a circuit (figs.1,2) LEDs represented as display element (14) used in signal lights (col.1) having a resistor (26) located inside the display apparatus (10,12) for the purpose of limiting current supplied to the diodes (30) (col.2, lines 37-38). WALTZ teaches a triac power controller (16) at least located remote from the display apparatus (fig.1) for the purpose of modulating the intensity of the light source (col.2, lines 30-34). WALTZ teaches various colors of LEDs including green and red (col.2, lines 60-65) for the purpose of producing visible display light with the most intensity. WALTZ teaches LED assemblies (30) electrically connected in series and diodes (32,34) electrically connected in series-parallel (fig.2) for the purpose of simultaneously energize all the light sources.

20. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the signal-display LED device of SASAKI to include a current limiter as taught by WALTZ et al in order to prolong the life of the LEDs; to

include a triac power controller as taught by WALTZ in order to modulate the intensity of the light source; to include green and red colored LEDs as taught by WALTZ in order to display light with the most intensity; and to include series or series-parallel connection of the LEDs as taught by WALTZ in order to simultaneously energize them.

Allowable Subject Matter

21. Claims 32, 33 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
22. Claims 20, 23, 25 and 38 are allowed.

Response to Arguments

23. Applicant's arguments filed on November 10, 2003 regarding the rejected claims of last Office Action of June 9, 2003 have been considered. Claims rejected by SEITZ SHAW and KALMANASH have been withdrawn in view of newly cited and applied art to OTT (US 1,637,348) by itself and further in view of FUJIHARA et al (US 4,852,985) which better disclose applicant's claimed invention. Applicant's cited prior art to HEALEY, OKUMURA, TANAKA, GARDNER '711 & '545, KUMAGAI AND MIYAMAE have all been considered as indicated in the enclosed copy of form 1449.
24. Applicant argues that none of prior art to Seitz in view of Sasaki, Sasaki in view of Waltz and Roney et al, Shaw et al in view of Kalmanash and further in view of Kalmanash disclose or teach a transfective face of said prism. Applicant has further

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relied on the definition of “transflective” face or surface from among the cited art of at least to Healy (US 6,165,080) directed to the text on col.1, line 65 through col.2, line 20 and col.4, lines 11-68, contending that such definition is repugnant to the interpretation of the term “transflective” made in the last Office Action.

25. In response, it is apparent that applicant's disclosure has disclosed the preferred meaning of transflective face in at least page 4, lines 18-23, page 9, lines 9-31, page 10, lines 8-18. As disclosed, the light transmitting and reflecting property of the transflective face depends on the geometry of the triangular solid prism and optics regarding internal reflection governed by light emitted by the light source exceeding and limited by the critical angle for internal reflection to occur and not occur. There is no mention of a transflective coating of Healey that can be made to be non-specific and specific to wavelength and polarizing orientation, nor any of the cited art that include electronic shutter means to select states of light transmittance and reflectance defining at least a transflective LCD, polarization orientation specific films, or a metal coating that includes any of silver to aluminum on a prismatic film. The cited prior art definitions of transflective face or surface appears to be beyond applicant's scope provided in the disclosure. However, provided in this Office Action, the prior art to Ott is applied to clearly show a transflective face at least using such a coating for allowing partial reflection and light transmittance. The rejection of claims with applied prior art to Sasaki has been modified to direct attention in the reference of a coating used to get partial reflection, optional to the internal reflection optics. And Yamada has been applied to reject claims, in accordance to the original definition in applicant's disclosure of internal

reflection of a triangular prism, since it is clear that both light transmission and reflection are taking place in the prism(s) of Yamada. The prior art to Fujihara et al has been applied with Ott to claims rejected for limitations which are taught to be obvious.

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. GORDON shows plural prisms (fig.5) on a lens (5 or 6) of reflector housing (1 or 2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Cariaso whose telephone number is (571) 272-2366. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1550.



Alan Cariaso
Primary Examiner
Art Unit 2875